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ABSTRACT OF THE DISCLOSURE

A particle analyzer that includes a specimen source, a flow cell, a pump and delivery tube for transporting specimen fluid from the specimen source to the flow cell, a dispensing valve for injecting stain from a stain source into the specimen fluid in the delivery tube, and a mixing device for mixing the stain and the specimen fluid together. The mixing device includes a cylindrical shaped member having an outer surface, a channel formed in the outer surface with the channel including circumferential and longitudinal turns, and a hollow mixing tube disposed in the channel. As the stain and the specimen fluid flow through the mixing tube, they travel through the circumferential and longitudinal turns and are mixed together. A fluid sensor employing a sensor RC circuit and a reference RC circuit detects capacitance changes in the delivery tube for detecting the presence or absence of fluid therein.

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